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# The COSM Newsletter

Fall 2017

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# The COSM Newsletter

Fall 2017



**GEORGIA  
SOUTHERN  
UNIVERSITY**

**COLLEGE OF  
SCIENCE AND MATHEMATICS**

College News

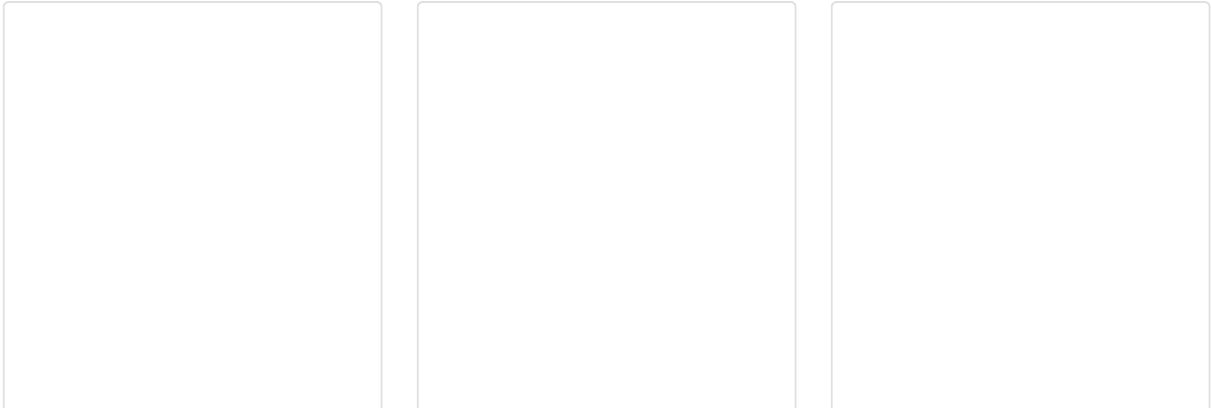
University Excellence Awards



**Michele McGibony, Ph.D.** (far left) and **Christine Whitlock, Ph.D.** (3rd from the right), of the Department of Chemistry and Biochemistry were awarded the 2017 Georgia Southern University Excellence Awards for Instruction and Service, respectively.

# Faculty and Staff presented with COSM Awards of Excellence

The College of Science and Mathematics held convocation on August 9, 2017 and presented three faculty and one staff member with the COSM Awards of Excellence.





# Alan Harvey

Alan Harvey, Ph.D., of the Department of Biology received the COSM Award of Excellence in Service.



# Shainaz Landge

Shainaz Landge, Ph.D., of the Department of Chemistry and Biochemistry received the COSM Award of Excellence in Teaching.



# Ryan Fortenberry

Ryan Fortenberry, Ph.D., of the Department of Chemistry and Biochemistry received the COSM Award of Excellence in Research.



Janae Cardell

Janae Cardell, of the Department of Biology, received the COSM Staff Award of Excellence.

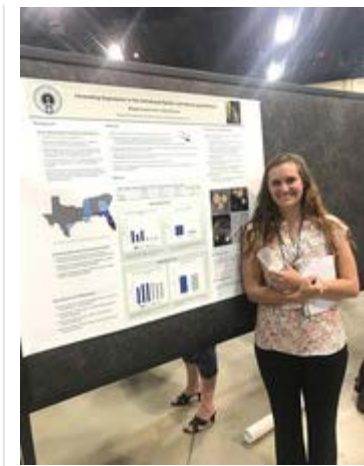
## Department of Biology

### Biology Undergraduate and Graduate Student News

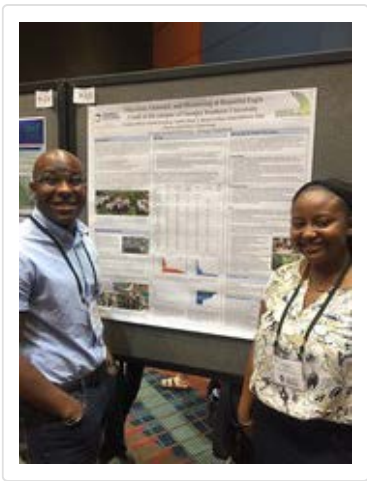
Many of our undergraduate students conducted research and attended meetings over the spring and summer. **Maggie Howard**, an honors student working with Scott Harrison,



Ph.D., won the Elsie Quarterman-Catherine Kever Award for the most outstanding poster presentation in the field of ecological research at the Association of Southeastern Biologists meeting.

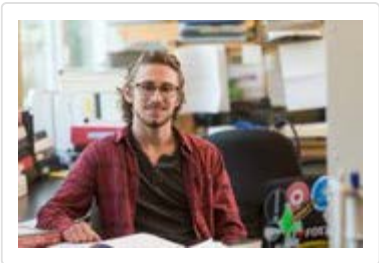


**Emily Knight**, mentored by Scott Harrison, Ph.D., received the 2nd place award at the Georgia Entomology Society meeting for her student poster.



Undergraduate students **Candace Moon** and **Aubrie Goodson**, presented their poster at the annual meeting of the Society for Freshwater Science.

**Kelsey Laymon**, mentored by Checo Colon-Gaud, Ph.D., was recently awarded \$1,500 scholarship from Air & Waste Management Association. Graduate Student **Rebecca Scott** was elected to be President of the Graduate Student Organization at Georgia Southern University this year.



Reid Loveless



Theresa Gunn



John David

Senior biology major, received a \$5,000 scholarship from the local chapter of Phi Eta Sigma National Honor Society in recognition of his hard work and strong academic record.

Graduate student mentored by Christine Bedore, Ph.D., won the Mollet Research Award for her research proposal at the American Elasmobranch Society and American Society of Ichthyologists and Herpetologists Joint Meeting in Austin, TX.

## Curlis

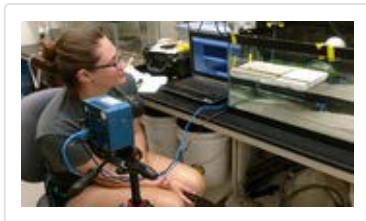
Graduate student, received this year's prestigious Averitt Award for Excellence in Graduate Research. This is the university's highest honor for graduate student research. This is the 7th year this award has been offered and students from the Biology Department have received four of these.

## Kane Lab News

Emily Kane, Ph.D.'s "The Kane Lab" has started the semester off with a bang! The lab contributed to the "Why my science is awesome" outreach and education initiative by a middle school teacher with the following [blog post](#).



The lab also collaborated with a visiting researcher this summer - Kassandra Ford, a Ph.D. student at the University of Louisiana, Lafayette (pictured upper right). She is interested in the feeding kinematics of South American weakly electric knifefishes.



Graduate student **Hannah Cohen** (pictured left) has started collecting data from guppies with a project examining the different ways guppies used their mouths to capture their prey. She's becoming a pro with our high speed cameras! View a zoomed in [video](#) of a guppy eating a copepod, filmed using near IR light (that's why the guppy looks like a ghost).

Undergraduate researcher **Emily Mahoney**, has been collecting data for a preliminary project using Mudskipper fish to look at how animals use the locomotor system while they eat when they transition between water and air. View a [video](#) of a mudskipper (lovingly referred to as 'Mama') eating some frozen worms from a floating "land" substrate. Follow on Twitter [@KaneLabGSU](#)

## Biology Alumni: Points of Pride



**Nick Wiley** accepted his Biology Alumnus of the Year award at a Saturday luncheon in the spring. He was the department's 46th Alumnus of the Year recipient. Nick is currently the Executive Director of the Florida Fish and Wildlife



Conservation Commission. Biology Alumnus **Louvenia Rainge**, a dentist from Augusta, received the College of Science and Mathematics Alumna of the Year award. Nick and Louvenia went to the same high school and knew each other well. He was student body president, and she was valedictorian. It was a memorable Alumni Banquet.



Many of our graduates have landed interesting jobs or are now attending graduate schools. Their jobs and studies take them all over the country as the following examples attest. Alumna **Kaitlyn Hanley** is studying pikas in the Rocky Mountains for her graduate work at Clemson University. Alumnus **Alex Troutman** is employed with the U.S. Fish and Wildlife Service in Wisconsin, and is working on reintroduction of the endangered Karner Blue Butterfly in Wisconsin. **Marine Osier** (pictured left) is working for Pheasants Forever in Colorado. **Nick Macias** is working on his Ph.D. at UC-Santa Cruz and **Lauren Neel** is off to a Ph.D. program at Arizona State University.

## Biology Faculty and Staff News

The Department of Biology welcomes 2 new permanent faculty members and 2 new visiting faculty members for this academic year. **Dongyu Jia**, cell biologist, received his Ph.D. from Florida State University and completed a postdoctoral appointment at the Woman's Cancer Program, Cedars-Sinai Medical Center, Davis, California. Dongyu uses fruit flies as a model organism. [He was recently named a "Notable Nole" at Florida State University.](#) The Notable Nole awards (formerly the Thirty Under 30 awards) of the Florida State University Alumni Association recognizes alumni with "exceptional achievements and significant contributions to his or her profession, community/society or the university." **Joshua Gibson** will begin his tenure-track position in January 2018. He received his Ph.D. from Arizona State University and is currently in a post-doctoral position at the University of California, Berkeley. Josh was hired to teach in the area of Genomics and he uses honeybees as a model organism. **Joe Figel**, conservation biologist, is a new visiting faculty member who recently received his Ph.D. from the University of Central Florida. He studies jaguars and their potential as an umbrella species to protect other habitats and organisms of concern. **Elizabeth Sargent**, marine



biologist, is also a new visiting faculty member and she received her Ph.D. from the University of South Hampton, in Southampton, UK. Elizabeth has most recently been teaching at the University of South Carolina and her research interests focus on carbon and nitrogen cycling in the ocean and the role that phytoplankton play in those cycles.

Faculty in the department continue to distinguish themselves in research, teaching and service. **Christine Bedore, Ph.D.**, was selected to receive the [Eugenie Clark Award](#) (founder of the Mote Marine Lab and pioneer in elasmobranch biology). Christine also organized a symposium session on elasmobranch physiological ecology and gave 2 talks, and was nominated and elected to the AES Executive Committee.



**Edward Mondor, Ph.D.**, was selected to be a Governor's Teaching Fellow, the 5th in our department. In addition Ed was elected President of the Georgia Entomological Society at their meeting this year. **Alan Harvey, Ph.D.**, received the COSM Award for Excellence in Service at this year's convocation. **Lance Durden, Ph.D.**, was selected as this year's Parrish Scholar. This award was endowed by John and Paula Parrish and seeks to recognize senior faculty who excel in student mentoring, teaching and research. Emeritus Professor **Bill Lovejoy, Ph.D.**, received the Muskingum University Distinguished Service at this year's Alumni Convocation.

**Michelle Tremblay**, Laboratory Supervisor, was selected for a 2017 Merit Award during the University Staff Service and Awards of Excellence Ceremony. Administrative Coordinator **Janee Cardell** received the Staff Award for Excellence at this year's COSM Convocation.

## Other Biology Departmental News

Many students and faculty in the Department of Biology have interests in Natural History. This interest is reflected in our museum collections, clubs ([@GSUNatHistory](#)), and a research effort to document all vertebrate species found on campus.



Two BioBlitz Events were held as part of this documentation effort. In April, the Herbarium curated by **John Schenk, Ph.D.**, hosted **President Jamie Hebert, Ph.D.**, to outline work in the Herbarium funded by the National Science Foundation. Dr. Hebert visited with students and faculty to better understand our vast botanical holdings.

On Saturday preceding Finals week, we held our end-of-the-



year picnic. Awards were given to students by the faculty and faculty received awards from students. Great food was served and a good time had by attendees. The students challenged the faculty to a game of kickball. The game was called due to darkness and to be finished another day—that is the faculty's spin, since they were losing. (Pictured left: **Vinoth Sittaramane, Ph.D.**, who won the Best Research Mentor Award as voted on by Biology undergraduates. He is receiving his award from Kendall Zanders of Tri-Beta.)

## The Department of Chemistry and Biochemistry

### Chemistry Alum featured in JAAS

COSM Alum **Benjamin T. Manard, Ph.D.**, was recently featured in the Journal of Analytical Atomic Spectrometry (JAAS). Benjamin graduated from Georgia Southern with his Bachelors of Science degree in Chemistry in 2009. While studying at Georgia Southern, he performed research in analytical chemistry under L. Shannon Davis, Ph.D. He then attended graduate school at Clemson University and obtained his Ph.D. in 2014. He was awarded a Glenn T. Seaborg postdoctoral fellow at the Los Alamos National Laboratory (LANL). After completion of his postdoctoral appointment in 2016, Benjamin was promoted into a staff Scientist position and is part of the Plasma Team at LANL, which he currently holds. Benjamin also serves on the Executive Committee (EC) of the Society for Applied Spectroscopy.



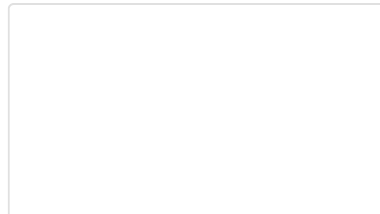
**Honors in Action: Summer Res...**

[academics.georgiasouthern.edu](https://academics.georgiasouthern.edu)  
u

Every morning during the summer of 2017, Mattie Braselton (chemistry '18) and Marina Michaud (chemistry '17) entered a lab, prepared their resources, and

## The Department of Geology and Geography

Georgia Southern University  
Sea Turtle Program at St.  
Catherines Island: 2017



# Season



The Georgia Southern University Sea Turtle Program at St. Catherines Island had a successful 27th season this summer, with a higher than average total of 207 nests conserved. Co-Directors Dr. R. Kelly Vance and Jaynie L. Gaskin led conservation and research efforts with the assistance of four capable interns, including two COSM students Erin Brinkman (Geology) and Tara Lopez (Geography and GIS, graduated). Eighteen Georgia Southern undergraduates participated in the program's fully-immersive field school, spending ten days on St. Catherines directly engaging in sea turtle conservation activities. The students attended lectures on a variety topics including barrier island geology, ecology, palenology, conservation research, zoo and wildlife medicine, and the anthropological history and archaeology of St. Catherines Island. Additionally, students had the opportunity to hone their research skills by independently conducting a conservation-related research project. While on the island, students selected a unique conservation topic, wrote a hypothesis, drafted methods, collected data in the field, performed data analysis, interpreted results and presented their conclusions in a final presentation and paper. The field school was organized and directed by Dr. Vance; Ms. Gaskin served as research mentor for select student projects and guest lecturers included Dr. Fred Rich (COSM- Geology), Dr. Katy Smith (COSM- Geology) Dr. Brian Meyer (Georgia State University), and Dr. Terry Norton (The Georgia Sea Turtle Center). **(Pictured upper right: Dozens of loggerhead sea turtle hatchlings make their way down the beach of St. Catherines Island into the Atlantic Ocean.)**



The program celebrated a new conservation record this year with regard to the diversity of sea turtle species nesting on St. Catherines Island. Of the total 207 nests, 203 were our usual loggerhead sea turtle (*Caretta caretta*) nests, and 5 were green sea turtle (*Chelonia mydas*) nests. This is the most green sea turtle nests ever documented on the island during a single season. In mid-August, hatchlings began emerging from the first of these nests- the first green sea turtle hatchlings in the history of St. Catherines Island! **(Pictured upper left: GS students are trained by GADNR personnel on proper nest verification and conservation techniques.) (Pictured below: 2017 Georgia Southern Sea Turtle Natural History and Barrier Island Environmental Geology Class.)**



## Diamondback Terrapin Project

Over the past two years, Jaynie Gaskin has worked to expand the conservation and research efforts of the Sea Turtle Program to include native diamondback terrapins (*Malaclemys terrapin*) nesting on the beaches of St. Catherines Island. In 2017, Ms. Gaskin received an external grant to support her work and her research student Sarah Walker (COSM-Geology) received a COUR grant to pursue a geospatial mapping project. During this season, Ms. Gaskin and her intern documented over 40 nests on the island. **(Pictured right: Jaynie Gaskin and a diamondback terrapin.)**



Although many of these nests were lost to predators both before and after detection, Ms. Gaskin persisted with her conservation efforts, testing multiple protection methods and modifying as needed to decrease risks of predation. Of the twelve diamondback terrapin nests that survived the incubation period, every nest was successful and all had hatch rates over 80%. **(Pictured left: A diamondback terrapin hatchling is released safely into the marsh.)**





## Gopher Tortoise Program

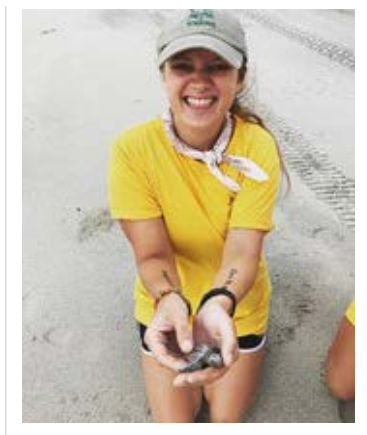
St. Catherines Island is home to the longest monitored translocated gopher tortoise population in North America. In 2017, Jaynie Gaskin cultivated a collaboration among researchers and conservationists from Georgia Southern, The Georgia Sea Turtle Center, and The Savannah River Ecology Lab to revitalize the gopher tortoise program. Ms. Gaskin partnered with Dr. Terry Norton of the GSTC and Dr. Tracey Tuberville of the SREL to lead this new research initiative's first project- a complete population survey and geospatial analysis. Dr. Christine Hladik (COSM- Geography) and Dr. R. Kelly Vance (COSM- Geology) joined the group of researchers to provide their expertise on GIS mapping and barrier island geology, respectively. Ms. Gaskin and her Co-PI's successfully obtained external funding for equipment and two interns and in May work began on St. Catherines. During the summer, data were collected on over 500 gopher tortoise burrows, more than double the number of burrows and tortoises expected to be on the island. In addition to mapping and marking burrows, researchers also assisted with health assessments of native tortoises, release of rehabilitated tortoises and soft-release of head-started juvenile tortoises. **(Pictured upper right: "Team Tortoise" Intern Ethan Chapman (GSTC), Jaynie Gaskin, Dr. Terry Norton, Intern Jessica Mlaska (COSM - Geology)**



## Experiential Learning for Teachers

The sea turtle program continued its tradition of educating educators by participating in the Experiential Learning for





Teachers program through Kennesaw State University. The program hosted eight K-12 teachers and 2 faculty members from KSU's College of Education. The "teacher-interns" investigate loggerhead ecology, the human history, and geologic evolution of St. Catherines Island. They practice journaling in experiential, place-based, inquiry-based learning, make abundant digital images for use in their careers, and may make natural history collections for use in their classes. (Pictured left: teacher Erin Tinnell shows off a loggerhead hatchling from a nest inventory.)

## The Department of Mathematical Sciences

### Math Faculty News

The department welcomed four new tenure track faculty for the fall. **Dr. Tuyin An** completed her Ph.D. in Mathematics Education from Purdue University. **Dr. Yongki Lee** received his Ph.D. in Applied Mathematics from Iowa State University and comes to us from a visiting position at the University of California-Riverside. **Dr. Yuanzhen Shao** received his Ph.D. in Mathematics from Vanderbilt University and comes to us from a visiting position at Purdue University. **Dr. Eryn Stehr** completed her Ph.D. in Mathematics Education from Michigan State University.

**Divine Wanduku, Ph.D.**, who has been in the department for two years, transitioned from a lecturer into a tenure track position in August.

Finally, we welcomed **Larie Ward, Ph.D.** as a regular, limited term faculty member. Dr. Ward received her PhD in Mathematics from the University of Florida. We are very excited to have these new faculty in the department!

### Math Departmental News

The department continued to host active colloquia and seminar series. We hosted 19 colloquia speakers in addition to the seminars in geometry, statistics, mathematical physics, computational science, and analysis. Our Distinguished Lecture Series speaker was Doron Zeilberger, Ph.D., from Rutgers University.

In May, the department hosted an NSF-sponsored conference in Savannah. The International Conference in Approximation Theory was organized by Alex Stokolos, Ph.D., Jiehua Zhu, Ph.D., and Emil Iacob, Ph.D. One afternoon was dedicated to the memory of our treasured colleague, Dr. Yingkang Hu.

Plans are already underway to host the 30th Georgia Southern University Invitational Mathematics Tournament as well as the Eagle Undergraduate Mathematics Conference in February 2018.

## The Department of Physics

### The Planetarium's Adventure to see the Eclipse

by Dillion Marcy



As the Georgia Southern Planetarium Coordinator, I scheduled a "Physics Eclipse Caravan" to go see the August eclipse. A town called Cross Hill, SC was in the middle of Totality and seemed like a spot that would not be overcrowded like Columbia or Charleston. Thirty-six physics majors and friends joined us on the caravan as we headed to South Carolina to setup in a church parking lot.

The trip took us around 2.5 hours. Upon our arrival, to our surprise there were a lot more people than we were expecting. The Pastor had opened his church and grounds to the public, and even had a BBQ ready for the eclipse watchers. With our solar telescope we could see a sunspot group on the solar disk, though no prominences were visible.

For an hour we watched through the Eclipse Shades as the Sun kept getting smaller and smaller increasing the anticipation. The temperature steadily dropped. For a while there we were not sure if we would see totality as clouds had moved in and covered the Sun. A white sheet we had put out on the ground showed "Shadow Bands" indicating that totality was quickly approaching. Luckily, just in time the clouds moved out of the way and we saw the Sun quickly vanishing. When the Sun disappeared and the "Diamond Ring" briefly appeared we quickly took off our glasses and I started my stop watch to know how much time we had. The

once bright solar photosphere looked like a dark black hole in the sky. The corona that surrounded the eclipsed sun was a ghostly white, and truly did look like a crown. Some bright stars along with the planets Venus and Mars were visible in the twilight sky.

Two minutes and thirty seconds later my watch rang and it was time to put the shades back on. We saw the Moon begin to move out of the Sun's way bringing totality to an end with a quick flash of "Bailey's Beads". It really was a wonderful experience and I am looking forward to the next eclipse in 2024.

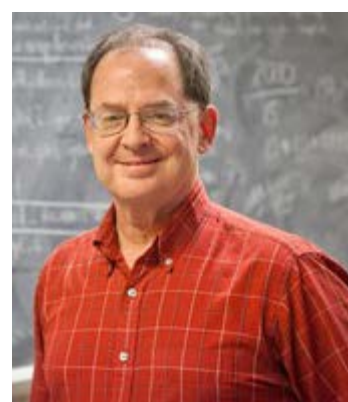
The Georgia Southern Planetarium will host several Free Public Evenings this Fall. Visit their website for dates and showings: [cosm.georgiasouthern.edu/planetarium](http://cosm.georgiasouthern.edu/planetarium)



## Mark Edwards, Ph.D., receives \$165,000 NSF grant to study ultracold gases

**Dr. Mark Edwards** has been awarded a three-year grant from the National Science Foundation for research devoted to ultracold quantum gases. The title of the grant is "Quantum Turbulence in Atomtronic Systems" and the award amount is \$165,000. The

proposed work will be performed in collaboration with Dr. Charles W. Clark of the Joint Quantum Institute (JQI) and the National Institute of Standards and Technology (NIST). The grant runs from September 1, 2017, through August 31, 2020. This is the ninth proposal in a row that has been awarded to Edwards by the NSF as a single-Principal Investigator grant devoted to basic research in ultracold quantum gases. Edwards has been funded continuously since September 1996 and the total value of these awards is now more than \$1,000,000.



This collaboration will study the behavior of ultracold samples of atomic gases strongly confined in a horizontal plane and subjected to arbitrary space-dependent and time-

dependent potentials produced by laser light. An "atom circuit" is a thin sheet of atomic gas that has been confined to two-dimensions by squeezing it with laser light and cooling it to nearly the absolute zero of temperature. The low temperature of such confined gases enhances the display of the wave-like quantum mechanical nature of the constituent atoms so that they form a state called a Bose-Einstein condensate (BEC). A horizontal thin sheet of gas in the BEC state can be molded by the confining laser light into arbitrary closed-loop shapes analogous to closed electric circuits. The gas can then be stirred by lasers so that it flows around the closed loop like the electrons in an electric circuit except that the particles are neutral atoms.

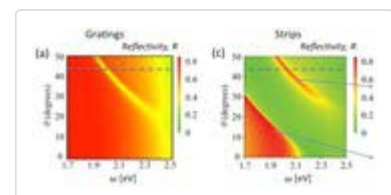
"Atomtronics" is an analog of electronics in which atoms flow through a circuit instead of electrons. Atomtronic systems are of interest because they could potentially be used as extremely sensitive quantum sensors of rotations, of magnetic fields, and of gravitational fields. This research program will study how the quantum turbulence that often appears when such gases are stirred can be harnessed to enhance the operation of these quantum sensor devices. Methods for readout of the important characteristics of these circuits (such as analogs of ammeters and voltmeters in electric circuits) will be developed.

In this work a variety of different atom-circuit designs will be investigated. Methods of producing condensate flow, especially smooth flow, will be studied. The operation of each atom circuit will be simulated both at zero and non-zero temperature. The flow present in atom circuits often involves the appearance of numerous topological excitations such as vortices (i.e., miniature tornadoes in the gas) and solitons (solitary waves that move without changing shape) and thus exhibits "quantum turbulence".

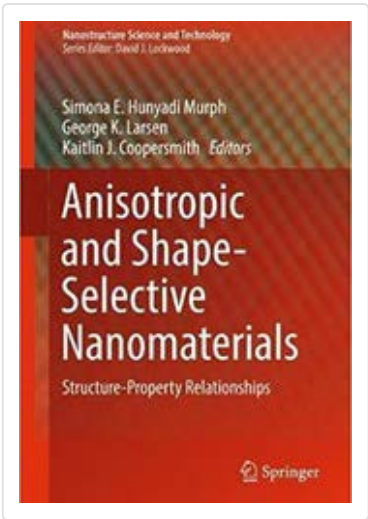
This research program will support at least two undergraduate physics majors to gain state-of-the-art research experience in the area of ultracold atoms. Results of this research will be broadly disseminated to enhance scientific and technological understanding by developing virtual reality (VR) videos that describe the physics of BECs at a level that is accessible to the lay public. These VR videos will be suitable for display on VR headsets such as the Oculus Rift and Google Cardboard. Finally, an understanding of the role of quantum turbulence in atom-circuits will enable the design of a new generation of practical devices that will find applications in metrology and navigation. This knowledge will also aid the understanding of fundamental properties of quantum matter.

## Physics Faculty and Students Published

A publication co-authored by a Physics Department graduate student **Matthew LePain** and **Maxim Durach, Ph.D.**, in



collaboration with Norfolk State University and Air Force Research Laboratory titled “Collective plasmonic oscillations in gold nanostrips arrays” was recently published in Optics Express (<https://www.osapublishing.org/oe/abstract.cfm?uri=oe-25-15-17581>; impact factor 3.3). The excitation of collective plasmonic modes and their effect on optical behavior are experimentally and theoretically studied in arrays of gold nanostrips in comparison with continuous gold films with periodically modulated profile. It was shown that continuous and discontinuous metal nanostructures of the same periodicity can have opposite power distribution properties at surface plasmon resonance. For the computations of optical properties of discontinuous films an original method was used, which was developed by the Physics Department’s Matthew LePain together with Dr. Durach (see details of the method here: <http://digitalcommons.georgiasouthern.edu/etd/1558/>)



Together with Dr. Noginova from Norfolk State University, **Dr. Durach** also co-authored an invited book chapter titled “Plasmon Drag Effect. Theory and Experiment” in “Anisotropic and Shape-Selective Nanomaterials” published by Springer in 2017, editors Simona Murph, George Larsen, Kaitlin Coopersmith (<https://www.amazon.com/Anisotropic-Shape-Selective-Nanomaterials-Structure-Property-Relationships/dp/3319596616/> ). In the book chapter the authors describe their pioneering work and discoveries in the field of Plasmon Drag Effect and novel Plasmogalvanic Phenomena.

# Physics Faculty participate in summer scholarly activities

Physics faculty members **Xiaojun Wang, Ph.D.** and **Li Ma, Ph.D.** had a busy summer participating in scholarly activities. (Pictured: Dr. Wang, as an invited speaker, presented their recent research results at the 18th International Conference on Luminescence (ICL ‘17) in Joao Pessoa, Brazil (August 30, 2017).



First, they joined the ETSI volunteer teaching program organized by Emory University and spent more than two weeks (May 20 - June 4) in India at Sera, Gaden, and Drepung monasteries in south India this year. There were 74 faculty members from 19 states and 41 institutions of the US participating in the program to teach science (neuroscience, philosophy, physics and biology).



After that, both of them went to China and gave several invited talks at different universities there, including Sun Yat-sen University, South China University of Technology, South China Agricultural University, Yunnan Minzu University, and Dalian Maritime University.

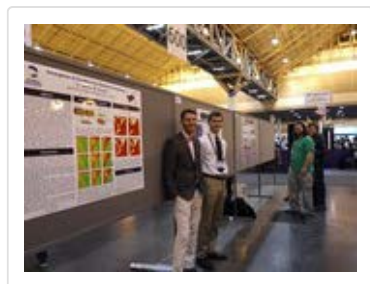
Dr. Wang also attended the editorial board meeting of *Light: Science & Applications* (a prestigious journal co-published by Springer-Nature and CIOMP, CAS) and was awarded as an Outstanding Editor of 2016-2017 by the journal (Changchun, China, July 15-18). He continuously serves as the Editor of *Luminescence* for the journal *Materials Research Bulletin* (Elsevier).

In addition, Dr. Wang gave an invited talk at the 18th International Conference on Luminescence (ICL '17), titled "Enhancement of red emission in  $\text{Au@Gd}_2(\text{WO}_4)_3:\text{Er}^{3+}$  in both down- and up-converted processes," in Joao Pessoa, Brazil.

**Maxim Durach, Ph.D.** presented invited talks at the Materials Science Research Seminar in Augusta University



(<http://www.augusta.edu/scimath/chemistryandphysics/materials-thursday.php>) on 2/10/2017 titled "*Plasmon Drag Effect and Plasmogalvanic Effects in Metal Nanostructures*" and at the Low-Dimensional Structures Seminar at Ioffe Institute in Saint-Petersburg, Russia (<http://ld-seminar.ru/archives/seminar>) on 5/29/2017 titled "*Optical and Plasmogalvanic Effects in Metals and Metamaterials*". Dr. Durach presented talks at the American Physical Society (APS) March Meeting 2017 in New Orleans, LA; Conference on Lasers and Electro-Optics (CLEO 2017) in San Jose, CA and at the Progress in Electromagnetics Research Symposium (PIERS 2017) Saint-Petersburg, Russia.



## Physics students present at the American Physical Society (APS) meeting

Department of Physics undergraduate researchers **Michael Melvin, Reed Hodges** and graduate researcher **Matthew LePain** presented their work with Maxim Durach, Ph.D. at the American Physical Society (APS) March Meeting 2017 in New Orleans, LA, March 16, 2017.

# James H. Oliver, Jr., Institute for Coastal Plain Science



 **A museum of nightmares: the ...**

[www.cnn.com](http://www.cnn.com)

The US National Tick Collection, part of the Smithsonian Institution and housed at Georgia Southern University, contains more than a million specimens.



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The College of Science and Mathematics at Georgia Southern University prepares students in baccalaureate majors and the Master of Science programs.

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- Chemistry and Biochemistry
- Geology and Geography
- Mathematical Sciences
- Military Science/ROTC
- Physics

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